EPA Begins Removing Thousands of Containers of Toxic Materials from Superior Barrel and Drum Site

Elk Township, Gloucester County, New Jersey

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If you would like information on general environmental concerns or the federal Superfund hazardous waste program, have concerns or complaints about the Superfund program, or if you seek assistance in resolving site-specific issues that were not fully addressed by the EPA, please contact:

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SITE INVESTIGATION

In fall 2013, the U.S. Environmental Protection Agency (EPA) conducted an investigation at the Superior Barrel and Drum Site in Elk Township, New Jersey. The 5.5 acre site was a drum recycling and reconditioning business that cleaned and reconditioned metal and plastic drums for resale, reuse or disposal. The facility began operating in the mid-1980s and reportedly stopped operations some time in 2012. More than 2,000 containers, including 55-gallon drums, industrial totes, and others were discovered at the site, many of which were in deteriorated condition. The EPA collected samples from each container to determine its contents. Results indicated that about half of the containers hold corrosive, flammable, caustic or chlorinated compounds and other hazardous materials. Some of the toxic chemicals found within the containers are trichloroethylene, benzene, lead, mercury, chloroform, and vinyl chloride. Exposure to these pollutants can have serious health effects. The EPA determined that these containers should be removed from the site to prevent a release of these hazardous substances into the environment, including nearby wetlands.

In addition to container sampling, the EPA collected soil and surface water samples from areas throughout the property. Results from these samples did not indicate widespread soil contamination or an imminent ground water or drinking water concern.

REMOVAL ACTIVITIES

All containers have been grouped based on their characteristics, so those with similar properties can be consolidated for transportation and proper disposal at a hazardous waste disposal facility out of the area. Composite samples of the consolidated materials have been collected and analyzed, which is required by the disposal facilities. Materials are being transferred or placed in salvage containers or over-pack drums and labeled. In addition, liquids which will be consolidated into tanker trucks have been staged for removal. Disposal of on-site materials will begin in late January 2014.

The EPA is coordinating cleanup activities with the Gloucester County Fire Marshal's Office, the Gloucester County HazMat Team, the New Jersey Department of Environmental Protection, the Elk Township Mayor's Office, and local police and fire departments.

NEXT STEPS

Materials will continue to be prepared for transportation and disposal. The EPA anticipates that all containers at the site will be removed by late spring 2014. Once completed, a more comprehensive investigation of the soil, surface water and ground water will be conducted. This includes the collection of samples to determine any impacts to residential drinking water wells.

http://www.epa.gov/region2/superfund/removal/superiorbarrel/

OVERALL CONTAINER REMOVAL PROCESS

Operation	***Process Details***
Container Screening	Several techniques are typically utilized to screen containers of unknown substances. Clues can sometimes be found on existing labels located on the outside of the drum or container, or the physical condition of the container may provide information on its contents. However, at the Superior Barrel and Drum Site, container contents do not reflect the labels. Additionally, many containers did not have labels, or the labels were illegible or void of information altogether. Many containers were also found to be in deteriorated condition due to prolonged exposure to the elements. To screen the materials, crew members wearing personal protective equipment opened each container with non-sparking tools and used a multi-gas air monitoring device to detect volatile vapors, measure oxygen levels, determine explosive atmospheres within containers, and determine whether radiological materials were present.
Material Identification	The EPA established an on-site laboratory at the facility and brought in chemists to analyze field samples. A small amount of material was collected from each container, and each sample was screened through a series of field tests to determine its characteristics. The field tests, known as the Hazardous Categorization or HazCat process, allow the chemist to determine the material's physical characteristics, pH, ignitability, combustibility, flammability, and whether it contains chlorinated compounds, oxidizing materials, polychlorinated biphenyls (PCBs) and other compounds. Other field equipment, such as the Hazardous Materials Identification System instrument, aid in the initial determination of hazardous properties.
Bulking of Compatible Materials	All information collected from the container screening and material identification processes is used for grouping materials into compatible waste groups, known as waste streams, which share similar characteristics and can be combined or "bulked" safely. Bulking reduces the cost and time frame of removing all the containers from the site. Containers within the same waste stream may be broken into subgroups to ensure appropriate bulking without adverse chemical reactions. Samples from each container within each waste stream or subgroup are added together to generate composite samples; the composite sample represents the waste stream. Chemists survey the composite sample for any changes in characteristics or reactions. Once cleared, the composite sample is sent to a laboratory for full analysis. The analytical results confirm which containers can be bulked together for disposal purposes, based on the similar chemical make-up and physical characteristics of each waste stream.
Transportation and Disposal	Once composite samples have been analyzed and waste stream components identified for disposal, information is sent to various companies to bid on the transportation and disposal of the waste streams. Companies generate quotes for the EPA to review. The Off-Site Rule (OSR) under the Comprehensive Environmental Response, Compensation and Liability Act ensures that the transportation, treatment and disposal facilities selected for this project are in full compliance of State and Federal laws. Following review and satisfaction of the OSR, a subcontract is awarded to the company and a schedule is agreed upon for the removal of site waste streams.